

never before noted at this station, which fact is verified by persons who have resided in San Diego for the past 40 years. Very rarely and at long intervals light snow has been seen on the summit of San Miguel Mountain, 15 miles distant. Snow is frequently seen on the Cuyamaca Peaks, 45 miles to the northeast, and occasionally on Lyons peak, 35 miles eastward. But accompanying this storm, snow varying in depth from two to five inches was reported from the low hills at El Cayon, Poway, Bernardo, and other points within 15 to 25 miles of station, "where such a thing was never before experienced." The magnitude of the fall of rain and snow was such, that 12 hours from the commencement of the storm San Diego river began flowing into False Bay, a "change almost unprecedented." In this connection the following comparative statement of January rainfalls will be found of interest: 1871, 0.69 inch; 1872, 0.99; 1873, 0.44; 1874, 3.11 inches; 1875, 2.38; 1876, 2.47; 1877, 1.05; 1878, 1.45; 1879, 3.54; 1880, 0.61; 1881, 0.52; 1882, (to date, January 13th) 3.02 inches. Oswego, N. Y., 27th, about 5 a. m., severe wind storm, considerable damage to telegraph and telephone wires; buildings unroofed, fences and trees blown down and much other damage caused; severest gale experienced for several years. Thompsonville, Conn., 27th, several buildings unroofed and considerable damage caused to farmers in the surrounding country. Stamford, Conn., 27th, one large building demolished and much damage to trees, fences and houses. Brattleboro, Vt., 27th, trees uprooted and broken down and several buildings demolished. North Hinsdale, Vt., 27th, buildings unroofed and telegraph and telephone wires rendered useless. Chesterfield, Vt., 27th, buildings blown down and forest trees uprooted. Westfield, Mass., 27th, considerable damage to buildings, fences and shade trees. Joplin, Mo., 15th, very heavy wind storm, demolishing trees, fences and out-buildings. Troy, N. Y., 27th, heavy westerly gale, causing much damage to property. Lansingburg, N. Y., 27th, several buildings unroofed. Castleton, N. Y., 27th, buildings unroofed and other property considerably damaged. Mineville, N. Y., 27th, several buildings blown down and other property damaged. Wilmington, Vt., 27th, considerable damage to trees and buildings. Marlboro, Vt., 27th, very heavy wind storm, causing much damage to property. Keene, N. H., 27th, several buildings blown down and quite a number unroofed. Winchester, N. H., 27th, large number of barns unroofed and houses partially demolished. Greenfield, Mass., 27th, several buildings unroofed and blown down. Schools were closed from fear of damage to buildings. Holyoke, Mass., 27th, considerable damage to property by the unroofing of buildings and the destruction of trees and fences. Southwick, Mass., 27th, buildings unroofed and otherwise damaged. Lewiston, Me., 27th, considerable damage to windows, fences, signs, chimneys and church steeples. Burlington, Vt., 27th, heaviest wind storm for many years; great destruction of property by the unroofing and blowing down of buildings; large trees uprooted or broken off. The ice in Burlington bay and Lake Champlain was swept out of sight with "amazing rapidity." Much havoc took place in the various lumber yards. Pittsfield, Mass., 27th, 9 a. m., very heavy wind storm, unroofing buildings, destroying trees and causing considerable damage in the surrounding country. In the city business was almost entirely suspended, "horses and sleighs were blown prostrate as the gale struck them and the streets were strewn with large quantities of debris." Most violent storm since the "terrible tornado" of July 16th, 1879. Saratoga, N. Y., 27th, heavy wind storm during early morning proving very destructive in surrounding country. Rockland, Me., 27th, several buildings unroofed and some damage to shipping in harbor. Chelsea, Me., 27th, several buildings demolished. East Concord, N. H., 27th, considerable damage to property. Chicopee, Mass., 27th, bridge over the Connecticut river destroyed; several buildings damaged. Lynn, Mass., 27th, several buildings unroofed and otherwise damaged. Rochester, N. H., 27th, several buildings damaged and other property destroyed. Cheshire, Mass., 27th, heavy wind storm; steam engine house

and ice-houses, the property of the Housatonic Ice Company were blown down; several other buildings completely demolished. Loss to property over \$5,000. North Adams, Mass., 27th, three large brick buildings aggregating over 800 feet in length, belonging to the Zylorite Works, were completely demolished. Newburyport, Mass., 27th, several buildings unroofed and otherwise damaged. Nashua, N. H., 27th, very heavy wind storm, considerable damage to property. Springfield, Mass., 27th, heavy wind storm about 10 p. m., considerable damage in city and surrounding country. West Turin, N. Y., 27th, considerable property destroyed. Naumburg, N. Y., 27th, barns unroofed and other buildings badly damaged; loss of property in vicinity quite severe. The gale was accompanied by rain, which began about 2 p. m. "The western sky was very dark and immense dark masses of cloud passed rapidly from west to east during the storm." Rondout, N. J., 27th, houses and other buildings unroofed, fences demolished and trees uprooted; severest wind storm for several years. Along the line of the Ulster and Delaware R. R. a great many telegraph poles were "broken off or torn out of the ground." Ancram, Dutchess, Co., N. Y., 27th, large destruction of property in town and surrounding country. Winthrop, Me., 27th, heavy westerly gale; considerable damage to property. Ballston Spa, N. J., 27th, heaviest wind storm experienced for several years; much damage to property. Bloodville, N. J., 27th, very heavy wind storm; buildings damaged. Rock City, N. Y., 27th, heavy wind storm; considerable property destroyed. Wabash, Ind., 26th, buildings unroofed, trees and fences blown down. Fort Wayne, Ind., 26th, heavy westerly gale, damaging buildings and other property. Grand Haven, Mich., 26th, several buildings and other property damaged during a heavy westerly gale.

#### VERIFICATIONS.

*Indications.*—The detailed comparison of the tri-daily indications for January, 1882, with the telegraphic reports for the succeeding twenty-four hours, shows the general percentage of verifications to be 83.18 per cent. The percentages for the four elements are: Weather, 81.32; Direction of the Wind, 76.27; Temperature, 86.60; Barometer, 88.52 per cent. By geographical districts they are: For New England, 84.0; Middle Atlantic States, 88.0; South Atlantic States, 83.6; Eastern Gulf States, 82.1; Western Gulf States, 80.7; Lower Lake Region, 87.7; Upper Lake Region, 83.6; Tennessee and the Ohio Valley, 85.4; Upper Mississippi Valley, 81.9; Lower Missouri Valley, 76.7; Northern Pacific Coast Region, 83.3; Middle Pacific Coast Region, 82.1; Southern Pacific Coast Region, 85.3. There were 119 omissions to predict (40 being due to the absence of reports from the Pacific coast) out of 3,813, or 3.12 per cent. Of the 3,694 predictions that have been made, 198, or 5.36 per cent. are considered to have entirely failed; 200, or 5.42 per cent. were one-fourth verified; 437, or 11.83 per cent. were one-half verified; 231, or 6.25 per cent. were three-fourths verified; 2,628, or 71.14 per cent. were fully justified, so far as can be ascertained from the tri-daily reports.

*Cautionary Signals.*—97 Cautionary signals were displayed during the month of January, 1882, of which 94, or 96.90 per cent., were fully justified by winds of twenty-five miles per hour, or over, at or within a radius of 100 miles of the station. 109 Off-shore signals were displayed, of which 80, or 73.39 per cent., were fully justified; 94 or 86.23 per cent., were justified as to direction; 106, or 97.24 per cent., were justified as to velocity. Twenty-two Off-shore signals were changed from Cautionary. Two Northwest signals were displayed, both of which were fully justified. 208 signals of all kinds were displayed, of which 176, or 84.61 per cent. were fully justified. The above does not include signals ordered at 69 display stations, where the velocity is only estimated. 147 winds of 25 miles or over, were reported, for which no signals were ordered. 34 signals were ordered late.

#### NAVIGATION.

*Stage of Water in Rivers.*—In the table on the right-hand